

We claim:

1. A prostate-specific antigen (PSA) derived peptide that is capable of eliciting an immune response comprising a sequence of the Formula I:
- 5 $X_n - X_1 - X - X - X - X - X - X - X_2$
wherein
 $n = 0$ or 1 ;
each X_1 is independently selected from leucine or methionine;
each X_2 is independently selected from valine or leucine; and
- 10 each X is independently selected from any amino acid, and fragments, elongations, analogs or derivatives of the PSA derived peptide.
2. A PSA derived peptide according to claim 1 selected from the group
- 15 consisting of MWVPVVFL (SEQ ID NO: 1), VLVHPQWWL (SEQ ID NO: 2), and KLQCVDLHV (SEQ ID NO: 3), or a fragment, analog, derivative or elongation of the PSA derived peptide.
3. A PSA derived peptide according to claim 1 selected from the group
- 20 consisting of MWVPVVFL (SEQ ID NO: 1), VLVHPQWWL (SEQ ID NO: 2), and KLQCVDLHV (SEQ ID NO: 3).
4. A fusion protein comprising the PSA peptide as described in claim 1.
- 25 5. A nucleic acid molecule encoding a PSA derived peptide according to claim 1.
6. A nucleic acid molecule encoding a PSA derived peptide according to claim 5 comprising:
- 30 (a) a nucleic acid sequence as shown in any one of SEQ ID NOS: 7-9 wherein T can also be U;

- (b) a nucleic acid sequence that is complementary to a nucleic acid sequence of (a);
- (c) a nucleic acid sequence that has substantial sequence homology to a nucleic acid sequence of (a) or (b);
- 5 (d) a nucleic acid sequence that is an analog of a nucleic acid sequence of (a), (b) or (c); or
- (e) a nucleic acid sequence that hybridizes to a nucleic acid sequence of (a), (b), (c) or (d) under stringent hybridization conditions.
- 10 7. A nucleic acid molecule encoding a PSA derived peptide according to claim 5 having a sequence selected from the group consisting of: SEQ ID NO:7; SEQ ID NO:8; and SEQ ID NO:9.
8. An expression vector comprising a nucleic acid molecule of claim 5
- 15 and regulatory sequences suitable for expression of the nucleic acid molecule.
9. A host cell transformed with an expression vector of claim 8.
- 20 10. A composition for eliciting an immune response in an animal comprising an effective amount of a peptide according to claim 1 in admixture with a suitable diluent or carrier.
11. The composition of claim 10 further comprising an adjuvant.
- 25 12. A composition for eliciting an immune response in an animal comprising an effective amount of a nucleic acid according to claim 5 in admixture with a suitable diluent or carrier.
- 30 13. The composition of claim 12 further comprising an adjuvant.

14. A method of eliciting an immune response in an animal comprising administering an effective amount of a peptide according to claim 1 to the animal.

5 15. A method of eliciting an immune response in an animal comprising administering an effective amount of a fusion protein according to claim 4 to the animal.

10 16. A method of eliciting an immune response in an animal comprising administering an effective amount of a nucleic acid molecule according to claim 5 to the animal.

15 17. A method of eliciting an immune response in an animal comprising administering an effective amount of a composition according to claim 10 to the animal.

18. A method of treating cancer comprising administering to an animal an effective amount of a peptide according to claim 1.

20 19. A method of treating cancer comprising administering to an animal an effective amount of a fusion protein according to claim 4.

20. A method of treating cancer comprising administering to an animal an effective amount of a nucleic acid molecule according to claim 5.

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21. A method of treating cancer comprising administering to an animal an effective amount of a composition according to claim 10.

22. A method according to claim 18 wherein the cancer is prostate cancer.

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